



(Pages : 3)

E – 1648

Reg. No. : .....

Name : .....

**Sixth Semester B.Sc. Degree Examination, April 2018**  
**First Degree Programme Under CBCSS**  
**CHEMISTRY**  
**Core Course – X**  
**CH 1641 : Organic Chemistry – II**  
**(2013 Admission Onwards)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

Answer **all** questions. Answer in **one** word to **maximum two** sentences.  
**Each** question carries **one** mark :

1. Draw the Zwitter ion form of glycine.
2. What is the product obtained when phenol is treated with  $\text{Con.HNO}_3$  ?
3. What is the action of heat on anthranilic acid ?
4. Give any one method of preparation of coumarin.
5. What is the product of the reaction  $2\text{CH}_3\text{CHO} \xrightarrow{\text{OH}^-}$  ?
6. What are anomers ?
7. What is the product obtained when glucose is acetylated ?
8. What is a prosthetic group ?
9. Give an example for a synthetic detergent.
10. What is special isoprene rule ? **(10×1=10 Marks)**

**SECTION – B**

Short answer type. Answer **any 8** questions from the following.  
**Each** question carries **two** marks.

11. Phenol is a weaker acid than acetic acid. Explain.
12. Give any one method of preparations of catechol.

P.T.O.



13. What happens when  $\text{CH}_3\text{CH}=\text{CH}-\text{CHO}$  is reduced with  $\text{NaBH}_4$  ?
14. Why is the  $\alpha$ -hydrogen in aldehydes and ketones acidic.
15. How will you obtain cinnamic acid by Knoevenagel reaction ?
16. Why are carboxylic acids much stronger than alcohols ?
17. What are epimers ? Give an example.
18. Draw the Haworth ring structure of  $\alpha$ -D fructose.
19. What is denaturation of proteins ?
20. Write a note on stereochemistry of amino acids.
21. Write a note on chemistry of vision.
22. What is genetic code ?

(8×2=16 Marks)

#### SECTION – C

Short essay type. Answer **any 6** questions from the following.  
**Each** question carries **four** marks.

23. What is Fries rearrangement. Explain the mechanism.
24. Explain the preparation and use of :
  - i) Picric acid
  - ii) Resorcinol
  - iii) Quinol.
25. What is Wittig reaction ? Explain the mechanism.
26. Explain with mechanism the oxidative cleavage of diols using lead tetra acetate and periodic acid reagent.
27. How is salicylic acid prepared ? How would you convert it into :
  - a) Phenol
  - b) Benzoic acid
  - c) Aspirin.



28. Explain the preparation, properties and structure of cellulose and starch.
29. Explain Sheehan method of peptide synthesis.
30. What is Wolff-Kishner reduction ? Give its mechanism.
31. Explain the classification of vitamins and represent the structure of vitamins A, B<sub>1</sub> and C. **(6×4=24 Marks)**

SECTION – D

Answer **any 2** questions. **Each** question carries **15** marks.

32. Explain the mechanism of following reactions :
- i) Aldol condensation
  - ii) Perkin reaction
  - iii) Knoevenagel condensation
  - iv) Wolff-Kishner reduction.
33. Explain elaborately, the structure of glucose.
34. Explain elaborately, the structure elucidation and extraction of nicotine.
35. a) Explain any two, preparation and uses of :
- i) Salicylic acid
  - ii) Tartaric acid
  - iii) Anthranilic acid
  - iv) Citric acid.
- b) Explain :
- i) Structure of RNA and DNA
  - ii) Replication of DNA.
- (15×2=30 Marks)**
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